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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,176	01/29/2001	James A. Proctor JR.	TAN-2-1508.01.US	1093

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EXAMINER	
BURD, KEVIN MICHAEL	

ART UNIT	PAPER NUMBER
2611	

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06/23/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/772,176	PROCTOR, JAMES A.	
	Examiner	Art Unit	
	Kevin M. Burd	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 May 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5-14,16,17,19,21,22,25-36,39 and 42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-14,16,17,19,21,22,25-36,39 and 42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____.

1. This office action, in response to the amendment filed 5/4/2010, is a final office action.

Response to Arguments

2. The previous claim objection is withdrawn in view of the amendment to the claims.

3. Applicant's arguments filed 5/4/2010 have been fully considered but they are not persuasive. Applicant states Kong does not teach detecting a movement of a communication device communicating the wireless signal or an external object in a signal path. However, Kong detects a movement of a communication device communicating a wireless signal in a signal path according to an increased BER due to a reduction in SNR (column 2, lines 3-25). Applicant states Kong teaches away from claim 1 and the applicant's disclosure. However, Kong discloses a CDMA communication system. The receiver detects when the distance between the base station and the mobile station increases (column 2, lines 9-13). A reduction of the SNR and a corresponding increase in the BER detects this amount of motion of the communication device (column 2, lines 3-25). When the distance between the base station and the mobile station increases, the transmission device will compensate by increasing the transmission power or performing a pertinent compensation (column 2, lines 14-19). Lowering of the FEC or coding rate would be a pertinent compensation (column 3, lines 3-26). Kong does not criticize, discredit or otherwise discourage the

solution claimed. Therefore, it is unclear how Kong teaches away from the claimed limitations.

Applicant states Bucher does not disclose measuring a metric of the modulated signal attribute comprising at least one of amplitude, phase and frequency. The examiner disagrees. Bucher discloses a BER estimation circuit 36, which determines a value responsive to error magnitudes occurring over several symbols (column 4, lines 22-23). It will be appreciated that errors may be phase errors, magnitude errors or a combination of both (column 4, lines 31-34). Therefore, the BER measurement determines the phase and/or magnitude errors of the received signal. Applicant states the argument presented in the office action is based on a misconstruing of the words amplitude, frequency and phase. However, Bucher discloses the determining of magnitude and phase errors. It is unclear how magnitude and phase values in the context of a modulated signal do not meet the recited claimed limitations of a measurement of a metric of a modulated signal attribute comprised of at least one of amplitude, frequency and phase as stated in claim 1.

For these reasons and the reasons stated in the previous office action, the rejections of the claims are maintained and stated below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 11-14, 16, 17, 19, 21, 22, 31-36, 39 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kong et al (US 6,700,881) in view of Bucher (US 5,621,737).

Regarding claims 1, 2 and 19, Kong discloses a CDMA communication system. The receiver detects when the distance between the base station and the mobile station increases (column 2, lines 9-13). A reduction of the SNR and a corresponding increase in the BER detects this amount of motion of the communication device (column 2, lines 3-25). When the distance between the base station and the mobile station increases, the transmission device will compensate by increasing the transmission power or performing a pertinent compensation (column 2, lines 14-19). Lowering of the FEC or coding rate would be a pertinent compensation (column 3, lines 3-26). Kong does not explicitly disclose how the BER or SNR is determined. Therefore, Kong does not disclose a measurement of a metric of the modulated signal attribute comprising at least one of amplitude, phase and frequency. Bucher discloses a BER estimation circuit 36, which determines a value responsive to error magnitudes occurring over several symbols (column 4, lines 22-23). It will be appreciated that errors may be phase errors, magnitude errors or a combination of both (column 4, lines 31-34). Therefore, the BER measurement determines the phase and/or magnitude errors of the received signal. It would have been obvious for one of ordinary skill in the art at the time of the invention to provide this simple substitution of the BER estimator of Bucher for the BER estimator of

Kong. These components will operate in substantially the same manner and will yield the same results.

Regarding claims 11-13, the combination of Kong and Bucher discloses the method stated above. MPEP 2111.04 discloses claim scope is not limited by steps that suggests or makes optional but does not require steps to be performed. Calculating the metric based on a frequency error signal as recited in these dependent claims are optional limitations since different modulated signal attributes are met by the reference.

Regarding claim 14, Kong discloses changes to the BER and SNR are determined and power increases and changes to the FEC or coding rate take place when necessary.

Regarding claims 16 and 17, the combination of Kong and Bucher discloses the method stated above. MPEP 2111.04 discloses claim scope is not limited by steps that suggests or makes optional but does not require steps to be performed. Selecting the parameter adjustment of an antenna mode as recited in these dependent claims are optional limitations since different parameter adjustments are met by the reference.

Regarding claims 21, 22, 39 and 42, Kong discloses a CDMA communication system. The receiver detects when the distance between the base station and the mobile station increases (column 2, lines 9-13). A reduction of the SNR and a corresponding increase in the BER detects this amount of motion of the communication device (column 2, lines 3-25). When the distance between the base station and the mobile station increases, the transmission device will compensate by performing a pertinent compensation (column 2, lines 14-19). Lowering of the FEC or coding rate

would be the pertinent compensation (column 3, lines 3-26). Kong does not explicitly disclose how the BER or SNR is determined. Therefore, Kong does not disclose a measurement of a metric of the modulated signal attribute comprising at least one of amplitude, phase and frequency. Bucher discloses a BER estimation circuit 36, which determines a value responsive to error magnitudes occurring over several symbols (column 4, lines 22-23). It will be appreciated that errors may be phase errors, magnitude errors or a combination of both (column 4, lines 31-34). Therefore, the BER measurement determines the phase and/or magnitude errors of the received signal. It would have been obvious for one of ordinary skill in the art at the time of the invention to provide this simple substitution of the BER estimator of Bucher for the BER estimator of Kong. These components will operate in substantially the same manner and will yield the same results.

Regarding claims 31-33, the combination of Kong and Bucher discloses the method stated above. MPEP 2111.04 discloses claim scope is not limited by steps that suggests or makes optional but does not require steps to be performed. Calculating the metric based on a frequency error signal as recited in these dependent claims are optional limitations since different modulated signal attributes are met by the reference.

Regarding claim 34, Kong discloses changes to the BER and SNR are determined and power increases and changes to the FEC or coding rate take place when necessary.

Regarding claims 35 and 36, the combination of Kong and Bucher discloses the method stated above. MPEP 2111.04 discloses claim scope is not limited by steps that

suggests or makes optional but does not require steps to be performed. Selecting the parameter adjustment of an antenna mode as recited in these dependent claims are optional limitations since different parameter adjustments are met by the reference.

5. Claims 5-7 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kong et al (US 6,700,881) in view of Bucher (US 5,621,737) further in view of Watanabe (US 2001/0041584).

Regarding claims 5-7 and 25-27, the combination of Kong and Bucher discloses the method and apparatus discloses above. The combination does not disclose an automatic gain control loop is found in the receiver. Watanabe discloses a CDMA receiver that includes the AGC amplifier 37A in figure 1. The AGC amplifier is provided for amplifying the received signal to a desired signal level, in which its gain may automatically be controlled to optimum so that its received power may become as minimal as necessary depending on the distance from the base station (paragraph 0066). Therefore, the receiver will increase the received signal level as the distance between the receiver and the base station increases so the signal can be received and processed correctly. This variable gain control will further minimize errors in the received signal. For these reasons, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the AGC amplifier of Watanabe into the receiver and method of the combination of Kong and Bucher.

6. Claims 8-10 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kong et al (US 6,700,881) in view of Bucher (US 5,621,737) further in view of Ryu (US 6,430,244).

Regarding claims 8-10 and 28-30, the combination of Kong and Bucher discloses the method and apparatus discloses above. The combination does not disclose the phase errors are produced by a delay locked loop. Ryu discloses a digital phase locked loop. The PLL will lock the received signal with a delayed version of a feedback signal by altering the feedback signal's phase as shown in figure 3. The PLL circuit includes a phase comparator for detecting phase errors of the input signal and a feedback signal (abstract). The PLL is a typical method of detecting phase errors from a received signal and an expected signal. The PLL is a well known, simple and cost effective method of determining and correcting phase errors in a received signal. For these reasons, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the method of determining the phase errors of Ryu into the method and receiver of the combination of Kong and Bucher.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M. Burd/
Primary Examiner, Art Unit 2611
6/15/2010